HEALTH CONSULTATION

CARTER COLOR COAT

DETROIT MICHIGAN

CERCLIS No MID980568646

May 14 1997

prepared by

Michigan Department of Community Health (MDCH)
Under a Cooperative Agreement with
Agency for Toxic Substances and Disease Registry (ATSDR)

FOREWORD

The federal Agency for Toxic Substances and Disease Registry (ATSDR) and the Michigan Department of Community Health (MDCH) have a cooperative agreement for conducting assessments and consultations regarding sites and incidents of contamination with toxic chemicals within the State of Michigan The Michigan Department of Environmental Quality (MDEQ) Environmental Response Division Superfund Section as part of the Brownfield Redevelopment Assessment program has asked the MDCH to evaluate the health risks associated with several properties included in the Brownfields Pilot Projects in Detroit and other cities in Michigan

A Brownfields parcel is a property that formerly was used for industrial or commercial purposes that is currently abandoned and that some industrial or commercial entity has expressed an interest in acquiring for future use The local governmental entities have asked the MDEQ to conduct environmental assessments of the Brownfields properties in their jurisdiction The MDEQ has consulted with the MDCH concerning public health aspects of these assessments

The MDCH health consultation for a Brownfields property includes consideration of the following fundamental questions

- Are there any imminent or urgent threats to public health associated with the property?
- Does the proposed future use of the property pose any long-term public health hazard?
- What specific actions if any are necessary to make the property safe for future use?
- Is there enough information available to answer these questions and if not what additional information is needed?

SUMMARY

The Carter Color Coat property is a former automobile part manufacturing and painting facility in Detroit Michigan The Fisher Body Division of General Motors Corporation built a 6 floor 600 000-square foot building on the property in 1919 using it for stamping of parts and assembly and painting of limousines until 1984 when the property was transferred to Cameo Color Coat who set up an electrostatic painting operation in the lower floors of the building Carter Color Coat took over the property in 1990 continuing the painting operations until they abandoned the building in 1994 The State of Michigan is going through the process of claiming the property for back taxes

The interior walls ceilings and windows of the building have deteriorated with debris including tile wallboard and glass scattered around some of the rooms The wooden floors in some parts of the building have buckled The building presents a general physical hazard to anyone going into it There is no restriction of access to the building and there is much evidence of trespass including signs that people have used some of the former offices as temporary shelters

Some of the tile and insulation in the building contains asbestos There is lead-containing paint peeling off the walls Sediment in a drain within the building contains very high concentrations of lead and other metals The wood flooring contains very high concentrations of polycyclic aromatic hydrocarbons (PAHs) possibly from creosote used as a preservative

Until the rehabilitation of the building is completed access should be restricted The rehabilitation should include appropriate steps to encapsulate or remove lead-containing paint and asbestos-containing tiles and insulation

BACKGROUND AND STATEMENT OF ISSUES

The Michigan Department of Environmental Quality (MDEQ), Environmental Response Division, Superfund Section as part of the Brownfield Redevelopment Assessment program, has asked the Michigan Department of Community Health (MDCH) to evaluate any health risks associated with the Carter Color Coat property

The Carter Color Coat property is located at 6051 Hastings Street in Detroit Michigan (Figure 1) The property covers the entire block between Hastings Piquette St Antoine and Harper Streets The northern half of the property (along Piquette Street) is occupied by a 6-story 600 000-square foot industrial building The remainder of the property is a paved fenced storage area Each of the first five floors of the building is primarily an open working area with a row of offices laboratories stairways and elevators along the south and east sides The sixth floor contained a cafeteria and an auditorium Along the walls of the working area on the ground floor there is a trench partially covered with steel plates that served as a drain There is a large rectangular open-topped tank formerly used for treatment of zinc phosphating sludge on the second floor

The building was constructed by the General Motors Corporation (GMC) Fisher Body Division in 1919 and occupied by Fisher Body until 1984 Fisher Body used the facility for stamping of special discs and tools die sets jigs and fixtures including prototype and model parts Fisher Body also assembled and painted limousines in the facility In 1985 GMC transferred the property to Cameo Color Coat Inc who used the facility for cleaning and painting automotive parts using an electrostatic painting technique Cameo Color Coat apparently conducted their operation on the first two floors of the building used the third floor as a warehouse and left the top three floors vacant In October 1990 Carter Color Coat took possession of the facility continuing the painting operation Carter Color Coat closed and abandoned the facility in 1994 and the State of Michigan is in the process of claiming the property for back taxes (1) As of this writing MDCH and MDEQ do not know the proposed future use of the property

In August 1990 a contractor for the facility's owners conducted a preliminary assessment and sampling in the southeast corner of the property where GMC had installed an underground storage tank in 1977 PRC Environmental Management carried out a Preliminary Assessment and Visual Site Inspection of the property for the U S Environmental Protection Agency (U S EPA) in April 1991 (2) The Community and Economic Development of the City of Detroit contracted for a building inspection and asbestos sampling of the property in February 1994 (3)

In February 1996 personnel from MDCH accompanied MDEQ personnel on a preliminary reconnaissance of the property They found the building readily accessible with open doorways and windows There was evidence that people had used an office on an upper floor for shelter The following June MDEQ personnel collected samples of tile insulation, paint wooden floor sediment and surface water from the property (4)

DISCUSSION

Some samples of tile and insulation collected from the building in 1994 and 1996 contained asbestos (3 4) Inspection of the building found enough similar material to exceed the standards set under the U S Environmental Protection Agency (U S EPA)'s National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Revision,[1] requiring removal of the asbestos-containing material before or during demolition of the building The NESHAP regulations also specifies the removal techniques to be used to minimize the release of asbestos and subsequent human exposure to the materials

Samples of paint from the interior walls of the building collected by the MDEQ in June 1996 contained as much as 1 3 per cent by weight lead (13 000 parts per million [ppm]) (4) MDCH assessors saw paint peeling off the walls in the building often in many layers Paint flaking off the walls may contribute lead to the dust and dirt present in the building There is no information available on chemical analysis of surface dust from the areas where MDCH and MDEQ staff saw

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[1] 40 CFR Part 61 Section 61 145(a)

evidence of habitation Soil and sediment collected from a drain on the ground floor of the building contained higher concentrations of lead than the paint samples did (Table 1)

Also in June 1996 the MDEQ collected 18 samples of soil and sediment from a drain trench just inside the outer walls of the ground floor of the building Some of the samples contained arsenic (1 sample) lead (15 samples) and PCBs (4 samples) (Table 1) at concentrations in excess of the MDEQ Generic Industrial or Commercial Clean-up Criteria (5) Under current conditions people are not likely to have extensive contact with the soil or sediment in the trench though the concentrations of chemicals found there might reflect the concentrations found in dust and dirt elsewhere in the building

Much of the flooring material in the large work rooms is wood blocks some of the which have absorbed water and swollen creating large bumps in the floor In June 1996 the MDEQ collected 5 samples of wood from the flooring and analyzed them for metals semi-volatile organic chemicals and polychlorinated biphenyls (PCBs) They found high concentrations of polynuclear aromatic hydrocarbons (PAHs)[2] in some of the wood samples (Table 2) Some of the samples contained concentrations of benzo(a)anthracene (4 samples) benzo(a)pyrene (5 samples) benzo(b)fluoranthene (5 samples) indeno(1 2 3-cd)pyrene (2 samples) and dibenzo(a,h)anthracene (3 samples) that exceeded the MDEQ Generic Industrial or Commercial Clean-up Criteria (5) The concentrations found are consistent with wood coated with creosote made from coal tar a mixture of PAHs commonly used as a wood preservative (6)

None of the wood samples contained any detectable PCBs (detection limit 1 3 parts per million [ppm]) or metals exceeding the MDEQ Industrial or Commercial Clean-up Criteria (5)

In June 1996 the MDEQ collected samples of standing surface water from a loading dock on the 1st floor of the building and from a zinc phosphating sludge treatment tank on the second floor The concentrations of chemicals found (Table 3) do not pose any health hazard for direct contact (7) The cadmium lead and methylene chloride concentrations in the water from the tank exceed U S EPA standards for drinking water but it is not likely that anyone would drink the water from the tank, and there is not any likely connection between the tank and any drinking water supply

During the MDCH/MDEQ visit to the property in February 1996 agency staff observed debris strewn around the smaller rooms originally offices and laboratories in the building The debris included broken glass pieces of wallboard and broken tiles and pieces of metal framework from suspended ceilings The building is freely accessible and agency staff observed signs that people were using some of the former office space for shelter Electrical power to the building has been cut off and the large work rooms and stairways are dark, even in the daytime

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[2] PAHs found in the wood include acenaphthene acenaphthylene anthracene benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene benzo(g h i)perylene benzo(k)fluoranthene chrysene dibenzo(a h)anthracene fluoranthene fluorene indeno(1 2 3 cd)pyrene naphthalene phenanthrene and pyrene

CONCLUSIONS

Glass from the broken windows and debris from the deteriorating inside walls and ceilings in the building pose physical hazards to trespassers

Lead and asbestos in building materials within the building unless properly removed or encapsulated may pose hazards to people occupying the building or might migrate to nearby areas during demolition or construction

Soil and sediment in the drain trench on the main floor contain lead and other metals at concentrations that might pose health hazards however under current conditions people are not likely to come into contact with the soil and sediment Demolition or construction in the building may make these soils and sediment more accessible for human contact or cause them to migrate to nearby areas

RECOMMENDATIONS

Access to the building should be better restricted until rehabilitation work eliminates the physical hazards and the chemical hazards from the soils in the drain

Rehabilitation of the building for future use should include prevention of future exposure to the lead-containing paint and friable and/or regulated asbestos-containing materials by either removal or containment Removal of lead- or asbestos-containing materials should be carried out using appropriate precautions to minimize human exposure to the materials

The availability of new environmental data or information about the proposed future use of the site may require additional health consultations concerning the future use of this property

REFERENCES

1 Michigan Department of Environmental Quality–Brownfields Redevelopment Assessment Work Plan for Carter Color Coat (formerly GMC Fisher Body Plant 21) 6051 Hastings Detroit Michigan March 6 1996

2 PRC Environmental Management for U S EPA Preliminary Assessment/Visual Site Inspection Carter Color Coat Inc (Formerly GMC Fisher Body Plant 21) Detroit Michigan February 20 1992

3 Environmental Mitigation Group for City of Detroit Report on inspection and asbestos survey of the Carter Color Coat property EMG project No 128701 February 24 1994

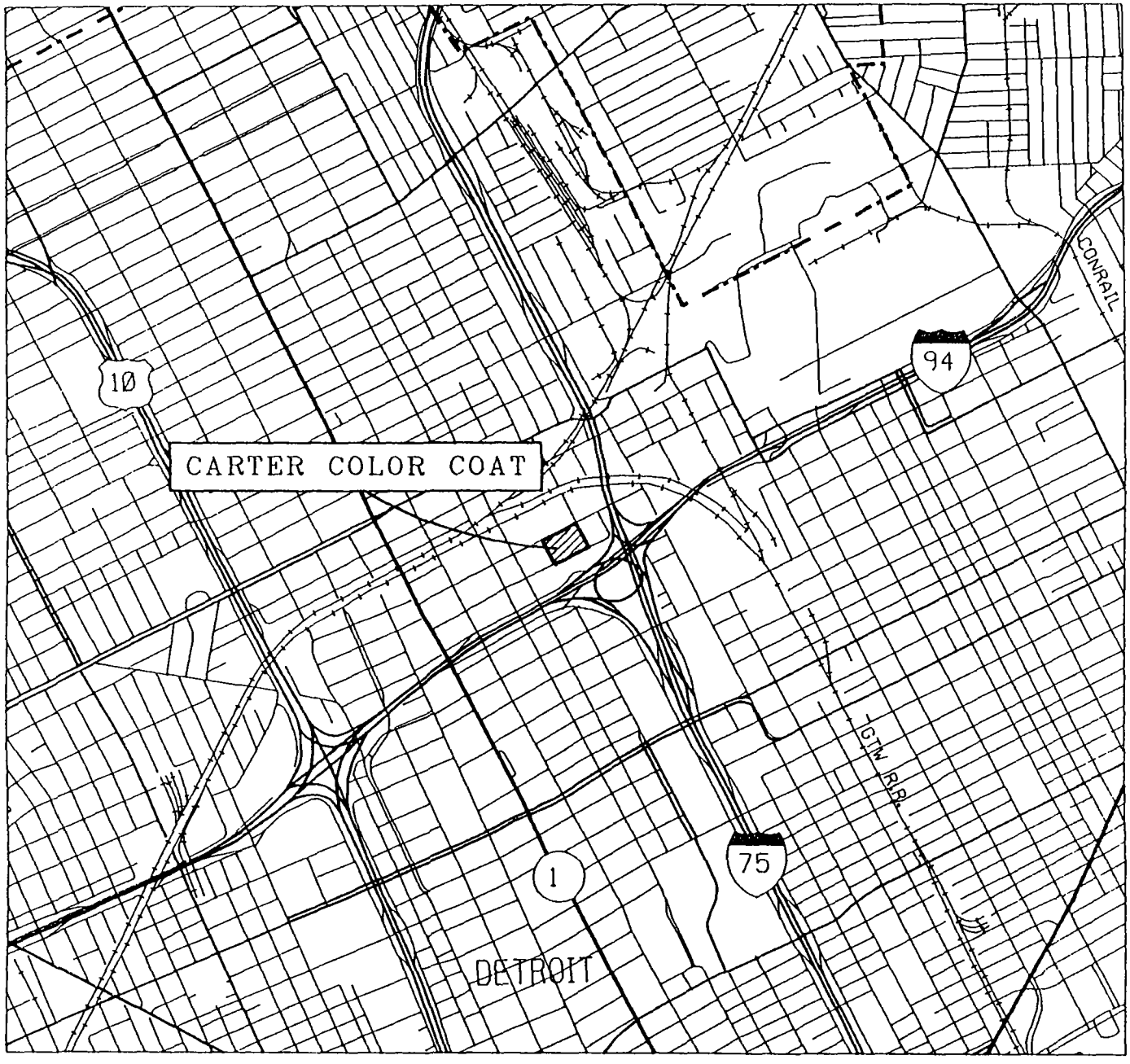
4 Michigan Department of Environmental Quality Unpublished laboratory data October 2 1996

5 Howard A J MDNR ERD Memorandum to ERD staff subject Environmental Response Division Operational Memorandum #14 Revision 2 Remedial Action Plans Using Generic Industrial or Generic Commercial Cleanup Criteria or Other Requirements June 6 1995

6 Agency for Toxic Substances and Disease Registry Toxicological Profile for Creosote Update August 1996

7 Howard A J MDEQ ERD Draft Memorandum to ERD staff Subject Interim Generic Utility Worker Contact Criteria Addendum to Interim Operational Memoranda #8 Revision 4 (June 5 1995) and #14 Revision 2 (June 6 1995) April 12 1996

Figure 1



CARTER COLOR COAT

PROPERTY LOCATION

- INTERSTATE HIGHWAYS (496)
- U S HIGHWAYS (2)
- STATE HIGHWAYS (55)
- OTHER MAJOR ROADS
- MINOR ROADS
- TWO TRACK ROADS
- AIRPORTS
- GRASS AIRSTRIPS
- RAILROADS
- ABANDONED RAILROADS
- RIVERS AND STREAMS
- INTERMITTENT STREAMS
- POLITICAL BOUNDARIES
- PROPERTY

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MILES

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Michigan Department of Public Health

Base map information provided by Michigan Department of Natural Resources MIRIS Program

10/31/96

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Table 1 Concentrations of chemicals in soil and sediment from a drain trench in the building on the Carter Color Coat Property June 1996

Chemical	Maximum Concentration (ppm)	Median Concentration (ppm)
acenaphthene	2 2	0 56
acenaphthylene	0 083	ND
aldrin	0 036	ND
anthracene	7 5	1 25
antimony	707	10 2
arsenic	135	18 9
barium	6 070	1 242 5
benzo(a)anthracene	26	7 2
benzo(a)pyrene	16	4 2
benzo(b)fluoranthene	32	7
benzo(g h,i)perylene	18	4 9
benzo(k)fluoranthene	20	5 9
beryllium	12 7	0 7
gamma BHC (Lindane)	0 027	ND
delta BHC	0 005	ND
bis(2-ethylhexyl)phthalate	48	4 8
butylbenzylphthalate	5 1	0 61
cadmium	36 1	12 9
carbazole	3 7	1 2
alpha-chlordane	1 4	0 16
gamma-chlordane	2	0 059
chromium	2 750	152
chrysene	29	7 5
cobalt	85 1	14 8
copper	16 100	1 890
cyanide	8 8	2 9
4 4 DDD	0 24	ND
4 4 DDE	1 4	0 14
4 4 DDT	0 54	ND
di n butylphthalate	16	2 1
di n-octylphthalate	1 3	ND
dibenzo(a,h)anthracene	8	2 2
dibenzofuran	1 2	0 47
1 4-dichlorobenzene	0 032	ND
dieldrin	0 76	ND

Table 1 (cont)

Chemical	Maximum Concentration (ppm)	Median Concentration (ppm)
dimethylphthalate	0 53	ND
endosulfan I	0 034	ND
endosulfan II	1 3	0 13
endosulfan sulfate	0 46	0 15
endrin	3 7	0 14
endrin aldehyde	0 4	ND
endrin ketone	0 12	ND
fluoranthene	41	10
fluorene	1 4	0 42
heptachlor	0 007	ND
heptachlor epoxide	0 42	ND
indeno(1 2 3-cd)pyrene	16	4 6
lead	45 900	1 930
manganese	1 930	961
mercury	12 4	2 4
methoxychlor	1 3	ND
2 methylnaphthalene	9 2	ND
naphthalene	4 3	ND
nickel	168	60 3
PCBs (total)	57	1 78
phenanthrene	33	6 7
pyrene	34	12
selenium	3 4	1 9
silver	15 6	1 2
thallium	7 4	3 4
vanadium	29	17 4
zinc	16 100	2 835

Reference 4

ND — Not Detected in more than 1/2 the samples

Table 2 Concentrations of chemicals in samples of wood flooring from the Carter Color Coat building June 1996

Chemical	Maximum Concentration (ppm)	Median Concentration (ppm)
acenaphthene	520	100
acenaphthylene	47	17
anthracene	920	490
arsenic	1 5	0 99
benzo(a)anthracene	1 700	900
benzo(a)pyrene	980	490
benzo(b)fluoranthene	1 300	730
benzo(g h,i)perylene	420	270
benzo(k)fluoranthene	870	360
cadmium	2 5	ND (2)
chromium	34	6 6
chrysene	1 700	950
copper	114	41
dibenzo(a,h)anthracene	230	60
fluoranthene	4 200	1 900
fluorene	520	140
indeno(1 2 3-cd)pyrene	370	130
lead	69 3	43
naphthalene	1 600	250
nickel	7 9	ND (5)
phenanthrene	5 100	2 800
pyrene	3 000	1 500
zinc	420	80 2

Reference 4

ND — Not Detected (with detection limit) in more than 1/2 the samples

Table 3 Concentrations of chemicals in water samples collected from a loading dock on the ground floor and a tank on the 2nd floor of the Carter Color Coat Building, June 1996

Chemical	Concentration (ppb)	
	Loading Dock	2nd Floor
anthracene	ND (10)	5 J
antimony	ND (3)	4 9
arsenic	4 8J	ND (4)
barium	14 6J	26 9J
2-butanone	ND (10)	3 J
cadmium	ND (1)	5 5
carbazole	ND (10)	2 J
chromium	ND (1)	2 3J
cobalt	ND (1)	15 2J
copper	19 1J	16 9J
cyanide	ND (2)	5 1J
di-n-butylphthalate	0 6J	ND (10)
2 4-dimethylphenol	ND (10)	1 J
di-n-octylphthalate	ND (10)	3 J
lead	7	21 2
manganese	26 5	364
methylene chloride	ND (10)	12
2-methylphenol	ND (10)	0 7J
4-methylphenol	ND (10)	4 J
nickel	5 1J	22 7J
phenol	ND (10)	0 7J
vanadium	ND (1)	1 2J
zinc	35 9	1 265

Reference 4

ND — Not Detected (with detection limit)

J — Estimated Value